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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,653	06/07/2001	Bernhard Raaf	112740-197	9871

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EXAMINER	
MEW, KEVIN D	
ART UNIT	PAPER NUMBER
2616	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/857,653	RAAF, BERNHARD	
	Examiner	Art Unit	
	Kevin Mew	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *36-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *56-64* is/are allowed.

6)☒ Claim(s) *36-37, 47, 55, 65* is/are rejected.

7)☒ Claim(s) *38-46 and 48-54* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

Response to Amendment

1. Applicant's Remarks/Arguments filed on 4/25/2007 regarding claims 36-65 have been considered. Claims 1-35 have been canceled by applicant and claims 36-65 are currently pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 36-37, 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Ranta et al. (USP 6,308,066) in view of Agre (USP 5,978,679).

Regarding claim 36, Ranta discloses a method for data transmission in a mobile radio system (mobile radio system, see abstract and Fig. 7), the method comprising the steps of:

transmitting first data (**transmitting user information**, see abstract) from a first base station to a mobile station (**from a current base station to the mobile station**, see abstract, col. 3, lines 1-6) using a first transmission method (**using CDMA transmission method**, see col. 7, lines 21-45);

interrupting the transmission of the first data at specific times by interruption phases (**the transmission of user information is interrupted when there is a pause in the received speech**, col. 6, lines 55-67) in which the mobile station interrupts at least one of the reception of

the first data and the processing of received first data (the reception of information from the current cell is temporarily interrupted, col. 6, lines 55-67);

switching, during interruption phases (**during the interrupted part**), the mobile station to reception of characteristic data packets (**receiving frequency correction channel packets,** col. 6, lines 55-67, col. 1, lines 25-28; note that synchronization information is the frequency correction channel and the synchronization channel of the neighbor cell) which are transmitted by a second base station (**which are transmitted from the neighbor cell/base station**, col. 6, lines 55-67, col. 7, lines 1-7); and

switching, during interruption phases, the mobile station to reception of the data packets to be detected and transmitted by the second base station using the second transmission method (receiving the synchronization channel packets during the interruption phase, col. 6, lines 55-67, col. 7, lines 1-7), wherein the reception of data packets to be detected and the characteristic data packets occurs parallel (the synchronization channel packets and the frequency correction channel packets occur in parallel because they are part of the synchronization information to be received during the interruption, col. 6, lines 55-67).

Ranta may not explicitly show the reception of the data packets and characteristic data packets to be detected and transmitted by the second base station is performed by using a second transmission method.

However, Agre discloses a mobile station handover from a CDMA system to a GSM system (col. 2, lines 20-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of measuring synchronization channel and frequency

correction channel in Ranta with the teaching of Agre in switching a mobile station from a CDMA system to a GSM system during handover such that the reception of the data packets and characteristic data packets to be detected and transmitted by the second base station is performed by using a second transmission method such as a GSM transmission method.

The motivation to do so is to provide the ability to incrementally introduce CDMA service within the existing GSM service area thereby spreading out the cost of introducing CDMA service over time.

Regarding claim 37, Ranta also discloses a method for data transmission in a mobile radio system as claimed in claim 36, the method further comprising the step of:

using knowledge about a frame structure of the data packets (**using the free time between SID frames**) transmitted by the second base station in order to reduce a maximum effective total duration of the interruption phases (**for performing synchronization measurement when the voice activity detection does not detect any speech to be transmitted and thereby minimizing the interruption of user information**, col. 3, lines 13-27).

Regarding claim 65, Ranta discloses a method for data transmission in a mobile radio system (mobile radio system, see abstract and Fig. 7), the method comprising the steps of:

transmitting first data (**transmitting user information**, see abstract) from a first base station to a mobile station (**from a current base station to the mobile station**, see abstract, col. 3, lines 1-6) using a first transmission method (**using CDMA transmission method**, see col. 7, lines 21-45);

interrupting the transmission of the first data at specific times by interruption phases (**the transmission of user information is interrupted when there is a pause in the received speech**, col. 6, lines 55-67) in which the mobile station interrupts at least one of the reception of the first data and the processing of received first data (the reception of information from the current cell is temporarily interrupted, col. 6, lines 55-67);

switching, during interruption phases (**during the interrupted part**), the mobile station to reception of frequency correction packets (**receiving frequency correction channel packets,** col. 6, lines 55-67, col. 1, lines 25-28; note that synchronization information is the frequency correction channel and the synchronization channel of the neighbor cell) on a time frame (on a frequency correction channel) which are transmitted by a second base station (**which are transmitted from the neighbor cell/base station**, col. 6, lines 55-67, col. 7, lines 1-7); and

switching, during interruption phases, the mobile station to reception of a synchronization packet transmitted on a different time frame (on a synchronization channel) by the second base station using the second transmission method (receiving the synchronization channel packets during the interruption phase, col. 6, lines 55-67, col. 7, lines 1-7), wherein the reception of data packets to be detected and the characteristic data packets occurs parallel (the synchronization channel packets and the frequency correction channel packets occur in parallel because they are part of the synchronization information to be received during the interruption, col. 6, lines 55-67).

Ranta may not explicitly show the reception of the data packets and characteristic data packets to be detected and transmitted by the second base station is performed by using a second transmission method.

However, Agre discloses a mobile station handover from a CDMA system to a GSM system (col. 2, lines 20-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of measuring synchronization channel and frequency correction channel in Ranta with the teaching of Agre in switching a mobile station from a CDMA system to a GSM system during handover such that the reception of the data packets and characteristic data packets to be detected and transmitted by the second base station is performed by using a second transmission method such as a GSM transmission method.
The motivation to do so is to provide the ability to incrementally introduce CDMA service within the existing GSM service area thereby spreading out the cost of introducing CDMA service over time.

3. Claims 47, 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ranta et al. (USP 6,308,066) and Agre (USP 5,978,679), and in further view of Bruckert et al. (USP 5,812,542).

Regarding claim 47, Ranta discloses a mobile station in a mobile radio system, comprising:

a first receiver for receiving first data which are transmitted by a first base station (**means for receiving user information between a current cell base station and the mobile station**, col. 8, lines 27-42) using a first transmission method (**using CDMA method**, see col. 7, lines 21-45); and

an inserter for inserting pauses at least during specific reception phases in which at least one of reception of first data and processing of received first data is interrupted (**means for interrupting an exchange of user information,** see col. 8, lines 27-42); and

a switch for switching the reception of characteristic data packets (**means for receiving neighbor cell information that includes frequency correction channel packets**, col. 8, lines 27-42), and transmitted by a second base station during the specific reception phases in which at least one of the reception of the first data and the processing of the received first data is interrupted (**transmitted by the second cell base station during the interruption phase when user information with the current cell base station is interrupted**, col. 6, lines 55-67, col. 7, lines 1-7).

a switch for switching the simultaneous reception of the data packets to be detected and transmitted by the second base station using the second transmission method (**receiving the synchronization information of the neighbor cell base station during the interruption phase**, col. 6, lines 55-67, col. 7, lines 1-7), wherein the reception of data packets to be detected and the characteristic data packets occurs parallel (**the synchronization channel packets and the frequency correction channel packets are simultaneously received because they are part of the synchronization information to be received during the interruption**, col. 6, lines 55-67, col. 1, lines 25-28; note that synchronization information is the frequency correction channel and the synchronization channel of the neighbor cell).

Ranta may not explicitly show the reception of the data packets are transmitted by the second base station is performed by using a second transmission method.

However, Agre discloses a mobile station handover from a CDMA system to a GSM system (col. 2, lines 20-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of measuring synchronization channel and frequency correction channel in Ranta with the teaching of Agre in switching a mobile station from a CDMA system to a GSM system during handover such that the reception of the data packets and characteristic data packets to be detected and transmitted by the second base station is performed by using a second transmission method such as a GSM transmission method.

The motivation to do so is to provide the ability to incrementally introduce CDMA service within the existing GSM service area thereby spreading out the cost of introducing CDMA service over time.

The combined method of Ranta and Agre does not explicitly show a second receiver for receiving data packets which are transmitted by a second base station using a second transmission method.

However, Bruckert discloses that in a CDMA system a mobile station comprises a second receiver that receives via a second antenna a second representation of a desired RF signal (see col. 6, lines 58-63 and Fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile station of Ranta such that the mobile station of the Ranta comprises a second receiver such that it receives a second representation of a desired RF

signal from the same base station such as the second receiver in a mobile station taught by Bruckert.

The motivation to do so is to use the second receiver to provide space diversity operation for the mobile station in order to improve the reception performance of the mobile station under multipath fading conditions.

Regarding claim 55, Ranta discloses a mobile station in a mobile radio system as claimed in claim 47, further comprising:

a device (**control unit**, element 701, Fig. 7) for storing and evaluating data packets (**receiving frequency correction packets**) received by a second base station in a predetermined time period (**from a neighbor cell base station during interruption of user information,** col. 6, lines 55-67, col. 1, lines 25-28; note that synchronization information is the frequency correction channel and the synchronization channel of the neighbor cell, col. 7, lines 1-7).

Response to Arguments

4. Applicant's arguments filed on 4/25/2007 have been fully considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

5. Claims 56-64 are allowed.

Claims 38-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 38, a method for data transmission in a mobile radio system as claimed in claim 36, the method further comprising the step of:

using, if the transmission conditions are good, a shorter maximum effective total duration of the interruption phases for secure detection of a data packet to be detected than would be necessary if the mobile station is switched only to receive the characteristic data packets.

In claim 39, a method for data transmission in a mobile radio system as claimed in claim 36, the method further comprising the step of:

using the knowledge about a relative position of the characteristic data packets transmitted by the second base station and of the data packets to be detected in order to reduce a maximum effective total duration of the interruption phases.

In claim 40, a method for data transmission in a mobile radio system as claimed in claim 36, the method further comprising the step of:

transmitting, after receiving at least one of characteristic data packet and a data packet to be detected, from the mobile station to the first base station, information which influences insertion of interruption phases.

In claim 41, a method for data transmission in a mobile radio system as claimed in claim 40, the method further comprising the step of:

transmitting, after receiving a data packet to be detected, from the mobile station to the first base station, information which results in no more interruption phases being inserted.

In claim 42, a method for data transmission in a mobile radio system as claimed in claim 40, the method further comprising the step of:

transmitting, after receiving a characteristic data packet, information from the mobile station to the first base station, which results in another interruption phase receiving the data packet to be detected being inserted after a predetermined time interval between the characteristic data packets and the data packets to be detected.

In claim 43, a method for data transmission in a mobile radio system as claimed in claim 36, the method further comprising the step of:

switching, after receiving at least one of a characteristic data packet and a data packet to be detected from the second base station, the mobile station to receive at least one of another characteristic data packet and a data packet to be detected from at least one third base station; and

transmitting, after receiving at least one of a characteristic data packet and the data packet to be detected from the at least one third base station, information from the mobile station to the first base station in order to at least influence one of the insertion of the interruption phases and transmit information via at least one of the second and third base stations.

In claim 44, a method for data transmission in a mobile radio system as claimed in claim 36, the method further comprising the step of:

storing and evaluating in a memory information transmitted via data packets from the mobile station to the second base station in a predetermined time period.

In claim 45, a method for data transmission in a mobile radio system as claimed in claim 43, the method further comprising the step of:

transmitting information for influencing insertion of the interruption phases and information about the second and the third base stations via a same message.

In claim 48, a mobile station in a mobile radio system as claimed in claim 47, further comprising:

a further switch for switching to reception of data packets which are characteristic, are to be detected and are transmitted by a third base station.

In claim 49, a mobile station in a mobile radio system as claimed in claim 47, further comprising:

an evaluator for evaluating information contained in at least one of the characteristic data packets and in the data packets which are to be detected; and

a transmitter for transmitting information to the first base station, which influences the insertion of interruption phases as a function of information which is contained in at least one of the characteristic data packets and the data packets to be detected.

In claim 50, a mobile station in a mobile radio system as claimed in claim 47, further comprising:

an evaluator for evaluating information contained in at least one of the characteristic data packets and in the data packets which are to be detected; and

a switch for switching off specific elements in the mobile station in the interruption phases once sufficient information has been determined about at least one further base station.

In claim 51, a mobile station in a mobile radio system as claimed in claim 47, further comprising:

a transmitter for transmitting information to the first base station which results in no more interruption phases being inserted.

In claim 52, a mobile station in a mobile station system as claimed in claim 47, further comprising:

a transmitter for transmitting information to the first base station which results in no more interruption phases being inserted after receiving a subsequent data packet to be detected.

In claim 53, a mobile station in a mobile radio system as claimed in claim 47, further comprising:

a transmitter for transmitting information to the first base station which results in another interruption phase for receiving the data packet to be detected being inserted after a predetermined time interval which is between the characteristic data packets and the data packets to be detected.

In claim 56, a base station in a mobile radio system, comprising:

wherein an effective total duration, which is required for secure detection in good transmission conditions, of the interruption phases is shorter than the effective total duration of the interruption phases when the mobile station is switched only to reception of at least one of characteristic data packets and data packets to be detected.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin Mew KM
Work Group 2616

CHI PHAM
SUPERVISORY PATENT EXAMINER 7/23/07